

XLV.—*On the Birds of the Province of Kattiawar in Western India.* By J. HAYES LLOYD, Capt. Bombay Staff Corps.

SURASTRENE of the Greeks, Saurashtra of Sanskrit literature, and Kattiawar of the present day, is a peninsular-shaped tract of country on the west coast of India, situated between $69^{\circ} 5'$ and 72° of east longitude and $23^{\circ} 10'$ and $20^{\circ} 40'$ of north latitude. It is bounded on the north and north-west by the waste tract of the Runn and by the Gulf of Kuchh, on the south-west and south by the Arabian Sea, and on the east by the Gulf of Cambay; while on the north-east it is connected with the mainland of Gujerat by the district of Ahmedabad. Speaking generally, the country presents an undulating surface, with a gradual rise towards the centre, whence a number of streams taking their rise flow in opposite directions and empty themselves respectively into the Gulf of Kuchh, the Arabian Sea, and the Gulf of Cambay. Near the coast on the north-west occurs a cluster of hills—the highest rather over 1500 feet—known as the Burda hills, for the most part thinly covered with brushwood, but with some of the inner and more sheltered valleys moderately wooded. In the opposite or south-eastern extremity of the peninsula the country again presents a rugged broken surface, much intersected by streams, and rising in some parts into bold rocky hills, the principal elevation being Mount Shuttroonjai, sacred to the first Tirthunker of the Jain hierarchy, and a great place of resort for pilgrims. In the south are two remarkable tracts. The smaller of these consists of a range of wooded hills disposed in a semicircle, from the base of which towers to the height of 2500 feet the granite peaks of Mount Geernar, a hill renowned in Sanskrit literature, its summit crowned by temples dating far back into the past, and its base bearing the rock-cut inscriptions of Pryadarse. The other and larger tract lies a few miles further south, and consists of a succession of ranges and lofty hills running in irregular directions, the whole thickly wooded and known as the Geer.

Excepting these last-mentioned tracts of the Geernar and the Geer, with the country in their immediate vicinity, the

province of Kattiawar may be described as treeless ; and a traveller entering the country by any of the ordinary routes, such as Jooria on the north, Wudwan and Gogo on the east, and Porebundor on the west, might, unless his business or pleasure took him to the southern portion, traverse the country in most directions and finally quit the province without having learnt the existence of any thing in the shape of a forest. He would pass over extensive plains of black soil with intervening tracts of stony sterile undulations and occasional sandy wastes, diversified in parts by low-lying districts, where, during the hot-weather months, the surface is covered with a saline efflorescence, and the rivers and wells supply only brackish water ; but in the way of trees, a few poor-looking specimens in the neighbourhood of villages, together with an occasional *Ficus* in the corner of a field, and a garden or grove in the vicinity of some of the large towns, are all that he is likely to meet with. If the traveller happened to be of an ornithological turn of mind, he would, after encountering such birds as *Aquila nævioides* (*fulvescens*), *A. bonellii*, *Lanius arenarius*, *Butalis grisola*, *Erythrosteria parva*, *Otocompsa leucotis*, *Saxicola picata* and *S. deserti*, *Citrinella huttoni*, *Houbara macqueenii*, and *Chettusia gregaria*, probably consider that he had acquired a good idea of the character of the avifauna of Kattiawar, and proceed to describe it as having European and African affinities, with an admixture of desert forms. After a more lengthened residence, however, he could not fail at certain seasons of the year to meet with forms for the occurrence of which, until he had discovered the existence of the Geernar and Geer forests, he would be greatly puzzled to account. In the earlier period of my own experience of the province, the southern districts were unknown to me. I had traversed the country in every other direction and come to the conclusion that Kattiawar, so far as looks went, was not unlike Kuchh, with a very similar avifauna. This opinion was first shaken by meeting with a solitary example of *Corvus levaillanti*—not that the bird was beyond the limits of its range, but because I had previously only seen it in the neighbourhood of hills and forests, or in districts more or less wooded, and felt puzzled by its oc-

currence in a treeless district near the shores of the Gulf of Kuchh. My surprise, however, was still greater on successively encountering in the most unlikely-looking places examples of *Palæornis rosa*, *Buchanga cærulescens*, *Copsychus saularis*, *Cyornis jerdoni*, *C. tickelliae* (so-called), *Graucalus macei*, and *Zosterops palpebrosus*, while my feelings amounted to consternation at sight of *Crocopus phænicopterus* on a peepul-tree in the dreary salt-districts of the east. It was impossible to reconcile the occurrence of such forms with the physical features of the country, as known to me; and a solution of the problem was anxiously looked for. In course of time an opportunity offered for a short trip; and I at once set my face toward the south, marching hurriedly to where, on clear days, the peaks of the Geernar loomed faint and blue on the horizon. I spent two days on that wonderful hill; and then tearing myself reluctantly from a contemplation of ancient palaces, Buddhist temples, and 2000-years-old inscriptions, all speaking silently of creeds, dynasties, and races long past away, I pushed on and wandered for three days in the forests of the Geer, returning from my trip with but few birds actually added to my collection, but with the mystery of the Malabar forms explained.

Any one who has travelled westwards from the plains of the Deccan will be able to recall the changes which occur in the aspect of the country as the Ghauts are approached—how the black cotton-soil becomes a loam, getting lighter in quality and colour as the surface of the country rises—how trees gradually appear, at first stunted and dotted about on low hills and then more numerous, until the traveller finds himself at last riding through a hilly woody country over a laterite soil, the soft red dust of which, stirred up by his progress, floats round him and settles on the bushes on either side of the track. Very similar was the approach to the Geer; in a ride of a few miles I seemed to have passed from Kattiawar to the Mawul country bordering the Ghauts or to parts of the Konkan. Even the trees helped to complete the illusion; for, with the exception of one or two strange forms numerous enough to be a feature in the scene, the bulk of the trees in

the Geer were of the same species as those forming the Konkan and Ghaut forests—*Tectona grandis*, *Terminalia glabra*, *T. belerica*, *Nauclea parviflora*, *Garruga pinnata*, *Odina nodier*, *Cassia fissula*, *Pongamia glabra*, *Diospyros exsculpta*, *Sterculia urens*, *Embllica officinalis*, *Schrebera swietinioides*, and many others—not such fine trees as their brethren further south, but still of the same species I had become so familiar with years before in the Konkan and Ghaut districts. Of course, with the discovery of a tract of country presenting such physical conditions as above described, much of what had previously puzzled me was accounted for. Any number of *Buchanga cærulescens*, *Crocopus phænicopterus*, *Cyornis jerdoni*, &c. would not have astonished me; their absence in fact, would have been unnatural.

But though the presence of these isolated wooded and mountainous regions in Kattiawar explains the occurrence of certain unexpected forms in the avifauna of the province, there are other questions suggested by them of great interest, to which I will briefly allude before passing on to the enumeration of species.

One of these questions is the extent to which the laws of geographical distribution are dependent on physical conditions—a subject referred to by Dr. Stoliczka*, and in illustration of which these Geernar and Geer jungles, in their bearing on the avifauna of Kattiawar, offer a marked instance, supplying a parallel to that of Mount Aboo, quoted by him as modifying the avifauna of Rajpootana. Another and little-understood subject is that of *restricted* migration. Many of our Indian resident species are known to move from one part of the country to another, quitting certain districts and appearing in others, or moving from plains to hills at different seasons of the year. Sometimes this is for the purpose of breeding—as in the case of the Kites, which leave the neighbourhood of Bombay, and some Shrikes, which leave Kattiawar, to breed in other districts. At other times it seems to be connected with the question of food-supply, as in the case of many of the Insectores, which visit the open country during

* J. A. S. B. xvi. p. 218.

some of the cold-weather months and retire to wooded regions for the hot weather and rains; or lastly, it may be due to a desire for lower temperature, as exemplified, apparently, by *Gallus sonnerati*, which in the Southern Konkan, where the species is common, invariably quits the lowlands on the approach of hot weather and betakes itself to the forests on the summit of the Ghauts and other elevated ranges. In Kattiawar many instances of this migratory impulse are observable. Thus *Lanius arenarius*, *L. vittatus*, and *L. erythronotus* quit the country when the breeding-season approaches; while *Acridothores ginginianus* and *Ploceus baya* arrive in numbers to breed, and disappear afterwards; *Palæornis rosa* appears in flocks in the plains during the rains and cold season, retiring to the Geer for the hot weather; while *Corvus levaillanti*, *Cyornis jerdoni*, *Graucalus macei*, and many others visit the plains in the cold weather, but spend the hot weather and rains in the Geernar and Geer forests.

It has been stated by one who has contributed much towards our knowledge of Indian ornithology, that the character of the avifauna of a country is determined as much by the forms absent as by those present; and he has so far acted on the theory as to record the forms which he failed to meet with in his somewhat restricted experience of a particular district. In view of the curious impulse which leads many species to quit districts at different seasons of the year, any generalization of the nature referred to must, I think, be taken with much reservation. An experience ranging over every season of the year and extending to every part of Kattiawar would alone justify an observer in recording the absence of a particular form from the province; and the same may be said, I believe, of every other district in India.

In order to furnish as complete information as possible of the avifauna of a tract of country so little known to ornithologists as Kattiawar, I have included in the following list all species met with during my residence in the country, distinguishing those of which I never actually shot an example. My thanks are due to Mr. R. B. Sharpe for assistance in identifying some of my specimens and for the kind manner

in which he has facilitated generally my study of the collections in the British Museum.

The nomenclature and numbers are those of Jerdon's 'Birds of India.'

2. *OTOGYPS CALVUS*.

Not uncommon; but, as a rule, only solitary individuals are met with. I once saw four sitting about on a low rocky hill.

4. *GYPS INDICUS*.

A Vulture that I believe to be of this species is common; but I never shot one.

On several occasions I noticed about the cliffs and valleys of the Geerwar, and once out in the plains, a large Vulture of a rich rufous or bay-colour, which seemed very distinct from *G. indicus*. It may possibly have been Mr. Hume's *Gyps fulvescens*; but I never succeeded in getting at one, whilst its evident partiality for hills and forests is against the supposition.

5. *GYPS BENGALENSIS*.

This is the commonest Vulture in the province, breeding in the cold season. A pair in my garden at Limree were busy building their nest in the middle of September.

The town of Gondul is a favourite locality with this Vulture, almost every banian- and tamarind-tree in the neighbourhood being occupied in the season by one or more pairs; and the hoarse cries they utter *in copulâ*, as also the constant shrieking and cackling of the young, used to be a source of great annoyance.

6. *NEOPHRON GINGINIANUS*.

Not uncommon, but somewhat locally distributed.

16. *HYPOTRIORCHIS CHICQUERA*.

Common.

17. *TINNUNCULUS ALAUDARIUS*.

Common.

29. *AQUILA NÆVIODES*.

Much has been written as to the specific distinctness of the African *A. nœvioides* from the Indian *A. fulvescens* vel *fusca*.

All observers, I believe, admit that they are very closely allied; but some would separate the two races, mainly, it would seem, on the grounds of a supposed difference in size. Mr. Blyth, Mr. Blanford, and others insist on the African bird being larger and more robust than the Indian; and if this difference were constant, it would, in conjunction with geographical distribution, entitle the two forms to rank as separate species. But of late specimens have been obtained in India which are admitted to be true *A. nævioides*, and we have therefore the somewhat remarkable fact of two distinct species with exactly similar phases of plumage, and only differing in point of size, both inhabiting India. On examining specimens of the two forms, however, it is at once apparent that African examples of *A. nævioides* differ as much in the matter of size, *inter se*, as they do, taken in a body, from the Indian *A. fulvescens*, while some African specimens are actually smaller than average Indian examples. My own belief is that African and Indian birds are referable to one and the same species, viz. *A. nævioides* of Cuvier, which in north-western India attains the development of the typical African form, but runs gradually smaller as it extends to the eastward. Parallel instances of decrease in size with extension of range might easily be quoted. In Kattiawar, where the species is common, the large form prevails. A pair of these birds once joined me in pursuit of a mongoose; but, luckily for the latter, there were a number of bushes about, and by dodging in and out and round these he finally escaped. The Eagles seemed to enjoy the fun; and as they always followed each other quickly in their stoops, and as I was always on the other side of the bush ready for the mongoose as he scudded round with his tail stuck out like a bottle-brush, the unfortunate little wretch had, for about five minutes, rather a bad time of it.

33. NISAETUS BONELLII.

Not common.

38. CIRCAETUS GALLICUS.

Common.

42. *HALIAETUS FULVIVENTER*.

Not uncommon in the vicinity of large sheets of water, such as the Null, the Ajuk Ghair, and similar places. A pair of these birds had their nest in a peepul tree opposite my tent at Baolee, near the Null; and I had daily opportunities of watching their actions, which have been well described by Mr. Hume ('Rough Notes,' pt. 1. no. 2). Before leaving the place, in February, I secured the two young birds, and kept them for some time in an aviary at Rajkote. Whilst still in the immature plumage (dark brown above, rather paler below) they were liberated by a servant during my temporary absence; by mistake! he said.

48. *POLIORNIS TEESA*.

Very common. On one occasion a bird of this species surprised me by pursuing and striking down a hen Florikin (*Sypheotides auritus*) that I had wounded.

51. *CIRCUS SWAINSONII*.

Very common.

52. *CIRCUS CINERACEUS*.

Very common.

These two species make their appearance in great numbers before the close of the rains, *C. cineraceus* arriving in the middle of September, and *C. swainsonii* about a fortnight later. A young female of *C. swainsonii*, killed on the 11th November, is in the immature plumage, with the whole underparts a uniform unstreaked rufous buff colour. A fine series of specimens that I possessed of both these species was unfortunately destroyed*.

* My collection suffered greatly from the risks ordinarily attending residence in India, aggravated by constant travelling. Negligence of servants on the march, upsetting of carts, depredations by dogs, cats, and insects, have all at times wrought woe to me; but amongst my greatest losses I count the destruction by white ants of a number of Kattiawar bird-skins: many of these I found no opportunity of replacing, though the birds were not rare; others represented species which I had never met with but once during three years' residence in the country.

54. *CIRCUS ÆRUGINOSUS*.

Common in the neighbourhood of marshes and lakes, and frequently met with hunting along rushy streams.

55. *HALIASTUR INDUS*.

Common along the shores of the Gulf of Kuchh and in the vicinity of large inland lakes. A specimen, killed on the 25th of October, on the shores of the Gulf of Kuchh, is in the pale brown immature plumage.

56. *MILVUS GOVINDA*.

Notwithstanding the number of Kites seen, I am obliged to confess I never shot one. They did not, however, appear to me to differ in any way from ordinary *M. govinda*.

59. *ELANUS MELANOPTERUS*.

I never met with this species, except on one occasion, when I shot an example at a place called Togana, in the west; unfortunately the specimen was one of those afterwards destroyed; but the details given in my notes are:—Length 12·5 inches, wing 10·25, irides crimson, cere yellow, legs pale yellow, second quill longest.

68. *OTUS BRACHYOTUS*.

I have met with this species in the cold weather when shooting in the grass preserves.

69. *ASCALAPHIA BENGALENSIS*.

Common.

76. *ATHENE BRAMA*.

Very common.

82. *HIRUNDO RUSTICA*.

Hirundo javanica, Scopoli.

Common.

In November of 1871 there was some very unseasonable weather in Kattiawar. Three days of heavy rain, with a cold east wind, destroyed an immense quantity of grain collected in the village thrashing-yards, and killed numbers of sheep, goats, and cattle all over the province. On one of these days I observed a party of Swallows sitting about on the ground, and shot one, which, at the time, I took to be *H. rustica*, and

on account of the draggled state of the plumage was on the point of throwing away. This specimen has been identified by Mr. R. B. Sharpe with *Hirundo javanica* of Scopoli. The ferruginous colouring of the throat comes lower down than in *H. rustica*; and the black pectoral band is reduced in front to a narrow line; while the underparts are white, with a faint tinge of rufous. Length of wing 4·3.

84. *HIRUNDO RUFICEPS*.

Common.

86. *HIRUNDO FLUVICOLA*.

I shot two out of a small party of these Swallows flying about the rocky bed of a river near the town of Dhrole; and on another occasion, when lying out on the shores of the Gulf of Kuchh waiting for Waders, a single bird of this species flew round close to me. I have not noticed it on any other occasion. Length of wing 3·5.

90. *COTYLE CONCOLOR*.

Occasionally met with. A pair built their nest against the rafters of the veranda of my house in Rajkote. Length of wing 4·1.

100. *CYPSELUS AFFINIS*.

Common.

112. *CAPRIMULGUS ASIATICUS*.

Not uncommon. Length of wing 5·6.

113. *CAPRIMULGUS MAHRATTENSIS*.

I have only met with this species in the rushes along the bed of the river near Gondul, where it was not uncommon. Length of wing 6·5.

114. *CAPRIMULGUS MONTICOLUS*.

Common. Length of wing 7·5.

117. *MEROPS VIRIDIS*.

Very common. I found them breeding in a bank near Sirsai in April.

123. *CORACIAS INDICA*.

Common.

129. HALCYON SMYRNENSIS.

Common. Wing 4·6, bill at front 2·4.

134. ALCEDO BENGALENSIS.

Not common. A specimen shot at Gondul has the bill 1·6 along the culmen, with the wing 3, and is scarcely distinguishable from *A. ispida*.

136. CERYLE RUDIS.

Very common.

144. MENICEROS BICORNIS.

Only met with in the neighbourhood of the Geerwar and Geer forests.

148. PALÆORNIS TORQUATUS.

Very common.

149. PALÆORNIS ROSA.

Common. Large flocks of this species are met with in all parts of the province during the rains and cold season; but in the hot season they leave the plains and retire to the wooded regions of the Geernar and Geer.

160. PICUS MAHRATTENSIS.

I shot a female of this species in the Geer, the only example I ever met with in Kattiawar; but I cannot now trace the specimen.

180. BRACHYPTERNUS AURANTIUS.

This species is common in the Geernar and Geer forests.

197. XANTHOLEMA HÆMACEPHALA.

Common. I have repeatedly seen these birds fly down to the trunk of a tree and cling like a Woodpecker; but I never saw them climb.

205. HIEROCOCCYX VARIUS.

I have only met with this Cuckoo in the neighbourhood of the Burla hills at the commencement of the rains.

212. COCCYSTES JACOBINUS.

I have obtained this species in a grass preserve near Rajkote during the rains.

214. *EUDYNAMYS HONORATA*.*E. orientalis*, Jerdon.

Very common.

217. *CENTROPUS RUFIPENNIS*.

Common. A pair built a great untidy-looking nest in a lime-bush in the Durbar Garden at Gondul, and brought up five young.

222. *TACCOCUA AFFINIS*?

A bird of this genus was common about twenty miles east of Rajkote; but unluckily the tract they inhabited was also a favourite haunt of panthers, and every time I saw the bird I was, rifle in hand, searching for the nobler game. On each occasion I made up my mind that I would visit the place for the express purpose of shooting a *Taccocua*; but somehow, as soon as I got there, some evil spirit entered into me and compelled me to exchange the gun for the rifle, and I finally quitted the province *Taccocua*-less.

234. *ARACHNECHTHRA ASIATICA*.

Very common.

255. *UPUPA NIGRIPENNIS*.

Common.

256. *LANIUS LAHTORA*.

Very common.

257. *LANIUS ERYTHRONOTUS*.

Rare.

260. *LANIUS VITTATUS*.

Very common.

262. *LANIUS ARENARIUS*.

Not uncommon.

Of these Shrikes *L. lahtora* is a permanent resident; the others disappear during the hot weather and rains, to breed elsewhere.

265. *TEPHRODORNIS PONDICERIANA*.

Common.

270. *GRAUCALUS MACUL.*

Common. This is one of the species visiting the plains of Kattiawar during the cold weather, and retiring to the Geernar and Geer forests for the rains and hot season. It is somewhat remarkable that of the numbers of this bird that I have seen and shot, not only in Kattiawar, but in the Konkan province, not one should have had the throat and breast unbarred. The measurements also were in all cases less than those given by Dr. Jerdon in his 'Birds of India,' and by Mr. Blanford (J. A. S. B. xli. p. 157). My specimens ranged from 10·5 to 11 inches in length, wing 6·2 to 6·4.

278. *BUCHANGA ALBIRICTUS.*

Dicrurus macrocercus, Jerdon.

Very common.

281. *BUCHANGA CÆRULESCENS.*

Not common. Chiefly confined to the wooded regions of the Geernar and Geer, but visiting the plains in the cold season. Wing 4·9.

288. *TCHITREA PARADISI.*

Not common. Only met with in the Geer.

292. *LEUCOCERCA AUREOLA.*

L. albofrontata, Jerdon.

Not uncommon. Wing 3·2.

299 *bis.* *BUTALIS GRISOLA.*

Rare. I obtained one specimen at Rajkote in the cold season.

305. *CYORNIS JERDONI.*

Common in the neighbourhood of the Geernar and Geer, and visiting gardens and groves in the open country. On a former occasion I expressed an opinion (Ibis, 1872, p. 197) that *C. tickelliae*, Blyth, was the female of *C. jerdoni* (*sanguineus*). In reply to this, Lord Walden stated (Ibis, 1872, p. 330) that *C. tickelliae* was distinguishable by having white lores. Now, not only is no mention made of white lores in Mr. Blyth's original description of *C. tickelliae* (J. A. S. B. xii. p. 941), but this feature is present in some of my female spe-

cimens of *C. jerdoni*, the said specimens presenting other and very evident signs of immaturity. Since my arrival in England I have had the pleasure of looking through Lord Walden's series and of discussing the subject with him; and I believe he is now satisfied that *C. tickellæ* is not a distinct species, but only the female of *C. jerdoni*.

323 bis. ERYTHROSTERNA PARVA.

Rare. A male, shot in November, has the rufous throat, but not quite so bright as another shot at Matheran in January. This species, like the last, is to be met with occasionally in groves and gardens in the open country.

345. PITTA BENGALENSIS.

During my short trip to the Geer I was one day stalking a lion, and saw several of what I believe were this species. One, in particular, surprised me by perching on the branch of a leafless tree and emitting a succession of loud double notes, giving me while so employed a good opportunity of studying his markings. Under the circumstances I thought I might put off securing a specimen, and accordingly sacrificed science to sport. Of course I never saw a *Pitta* again, and should not be at all surprised if the Kattiawar bird turn out to be a new species.

351. PETROCOSSYPHUS CYANEUS.

Not common. I shot a female and saw the male near the top of the Geernar mountains in the middle of April.

385. PYCTORHIS SINENSIS.

Rare.

434. MALACOCIRCUS MALABARICUS.

Common. Length of wing 4.1.

This species and *M. terricolor* seem to me very doubtfully separable.

436. MALACOCIRCUS MALCOLMI.

Common. Length of wing 4.6.

438. CHATARRHÆA CAUDATA.

Common. Length of wing 3.

459. *OTOCOMPSA LEUCOTIS*.

I only once met with this bird, in a grove at Mahdoooon, on the west coast; and my specimens were subsequently destroyed; but I believe it is common in the Oakhammandel districts in the extreme west, and also in the neighbourhood of the Burda hills.

462. *PYCNONOTUS PUSILLUS*.

P. hæmorrhous, Jerdon.

Very common.

467. *IORA ZEYLONICA*.

Common in the neighbourhood of the Geernar and Geer.

472. *ORIOLOUS MELANOCEPHALUS*.

I once saw in the Geer a Black-headed Oriole, which I think was more likely to have been this species than *O. ceylonensis*.

475. *COPSYCHUS SAULARIS*.

Only met with in the neighbourhood of the Geernar and Geer, where it is not uncommon.

480. *THAMNOBIA CAMBAIENSIS*.

Common. Many specimens are intermediate in colouring between *T. cambaiensis* and *T. fulicata*.

481. *PRATINCOLA CAPRATA*.

Common. Wing 2·6 to 2·8.

483. *PRATINCOLA INDICA*.

Very common. In most of my specimens the tail-feathers show some white at the base, not visible until the upper tail-coverts are pulled aside. Length about 5·15; wings average 2·7.

489. *SAXICOLA PICATA*.

Common. Average length 6·4; wings average 3·6.

491. *SAXICOLA ISABELLINA*, Rüppell.

S. ænanthe, Jerdon.

Very common. Length 6 to 6·5. Wing 3·6 to 3·8.

492. *SAXICOLA DESERTI*.

Very common. Wing 3·6 to 3·75.

497. *RUTICILLA RUFIVENTRIS*.

Not common.

516. *ACROCEPHALUS DUMETORUM*.

Very abundant in the cold season in gardens and groves.

530. *ORTHOTOMUS LONGICAUDA*.

Common.

535. *PRINIA STEWARTI*.

Not common. Length 5 inches; wing 1·9.

539. *CISTICOLA SCHÆNICOLA*.

Common.

543. *DRYMÆCA INORNATA*.

Very common.

553. *PHYLLOPNEUSTE RAMA*.

Common. In appearance this bird resembles a miniature *Acrocephalus dumetorum*.

582. *SYLVIA AFFINIS*.

Not uncommon in the cold season.

596. *PIPASTES ARBOREUS* = *P. agilis*, Sykes.

Common. A grove near the town of Dhorajee was much frequented by this species.

631. *ZOSTEROPS PALPEBROSUS*.

Common. This bird is, I think, a permanent resident in the province. I have shot it in gardens in the plains during March, and in the Geernar and Geer jungles towards the close of the hot weather.

645. *PARUS CINEREUS*.

Only obtained in the Geernar and Geer jungles, where it is common.

660. *CORVUS LEVAILLANTI*, Lesson.

C. culminatus, Jerdon.

Common in the Geernar and Geer jungles, and met with occasionally in the open country. It is the only Crow on the summit of the Geernar.

663. *CORVUS SPLENDENS.*

Very common.

674. *DENDROCITTA RUFA.*

Common where there are gardens, as at Gondul and Dhorajee.

684. *ACRIDOTHERES TRISTIS.*

Very common.

685. *ACRIDOTHERES GINGINIANUS.*

About the first or second week in May this species appears in great numbers, taking possession of all the old wells and building in the holes and crevices. According to my observations their nidification is at least a fortnight earlier than that of *A. tristis*. After the rainy season is over their numbers gradually diminish, until only an occasional pair are met with where before there were hundreds.

687. *TEMENUCHUS PAGODARUM.*

I do not remember to have met with this bird in the western parts of the province. In the eastern districts it was occasionally seen ; and at the Pandree talao, near Licuree, I found it comparatively numerous.

690. *PASTOR ROSEUS.*

Very common in the cold season.

694. *PLOCEUS BAYA.*

During the monsoon these birds are met with breeding in colonies in all parts of the country ; but they disappear after nidification is over. For a long time I did not know what became of them ; but when in the neighbourhood of the Geer, in April, I saw a large flock of plain-coloured Finch-like birds, which, from a near view, appeared to be this species in non-breeding-plumage. Kattiawar examples are referable to the small race. Wing 2·75, bill at front 0·65.

703. *MUNIA MALABARICA.*

Common.

706. *PASSER INDICUS.*

Very common.

711. *PASSER FLAVICOLLIS*.

The only place I ever met with this species was Liniree, in the eastern division, where I twice obtained specimens, which, however, were subsequently destroyed.

716. *CITRINELLA HUTTONI*.

Common.

756. *MIRAFRA ERYTHROPTERA*.

Shortly before and during the rainy season this species is very abundant ; afterwards it almost entirely disappears.

758. *AMMOMANES PHENICURA*.

Common.

760. *PYRRHULAUDA GRISEA*.

Common.

765. *SPIZALAUDA MALABARICA*, Scopoli.

Spizalauda deva, Sykes (*Cf.* Blanford, *Ibis*, 1873, p. 222).

Lord Walden has kindly shown me a copy of Sonnerat's work, containing a figure of Scopoli's bird, and I have no doubt the above identification is correct. A specimen in my collection is much mottled with white.

772. *CROCOPUS PHENICOPTERUS*.

Common in the wooded regions of the south, and extending occasionally to other parts of the country.

788. *COLUMBA INTERMEDIA*.

Very common.

794. *TURTUR CAMBAYENSIS*.

Very common.

795. *TURTUR SURATENSIS*.

Abundant in the wooded tracts of the south.

796. *TURTUR RISORIA*.

Very common.

797. *TURTUR HUMILIS*.

Obtained in all parts of the country, with the exception of the forest-tracts, but nowhere abundant.

800. *PTEROCLES FASCIATUS.*

Common. The first time I met with this species was in the Than districts, where, one evening, a small party of four or five came to drink after dusk, alighting silently on the shingle in front of my tent. It was too dark to make out what they were; but I set them down in my mind as Goat-suckers, and was much surprised on taking a random shot to find I had got this Sandgrouse. As a rule, they are met with on low rocky hills or amongst cactus-bushes, and seem to avoid the bare plains.

802. *PTEROCLES EXUSTUS.*

Very common.

803. *PAVO CRISTATUS.*

Very common.

819. *FRANCOLINUS PICTUS.*

Common.

822. *ORTYGORNIS PONTICERIANA.*

Common.

827. *PERDICULA ASIATICA.*

Common.

829. *COTURNIX COMMUNIS.*

A fair bag of Grey Quail can be made in some parts of the province; but they are by no means generally distributed.

836. *EUPODOTIS EDWARDSI.*

Common.

837. *HOUBARA MACQUEENI.*

Rare. Met with occasionally in the north and north-west of the province.

839. *SYPHEOTIDES AURITUS.*

Abundant in the rains.

840. *CUSORIUS COROMANDELICUS.*

Common. According to Dr. Stoliczka (J. A. S. B. xli. p. 250), all the Courier Plovers found in Kuchh are referable to *C. jamesonii*, Jerdon. The same species will probably be

met with in the Kattiawar districts adjoining the Runne, a part of the province I was unfortunately never able to visit.

844. *SQUATAROLA HELVETICA*.

I have obtained this bird on the coast in winter plumage.

845. *CHARADRIUS LONGIPES*.

Not uncommon.

846. *ÆGIALITIS GEOFFROYI*.

Very common along the Gulf of Kuchli.

847. *ÆGIALITIS MONGOLICUS*.

Æ. pyrrhothorax, Jerdon.

Associating in large flocks with the above.

850. *ÆGIALITES MINUTUS*.

Common.

852. *CHETTUSIA GREGARIA*.

I have twice obtained this species, once near Wodwan, and again near Gondud; but the specimens have been destroyed.

855. *LOBIVANELLUS GOENSIS*.

Very common.

856. *SARCIOPHORUS BILOBUS*.

Common.

858. *ESACUS RECURVIOSTRIS*.

I have only once obtained this bird, getting a single example out of a small party that were running about the stony bed of a river near Togana.

859. *ÆDICNEMUS CREPITANS*.

Very common.

860. *STREPSILAS INTERPRES*.

Not common.

862. *HÆMATOPUS OSTRALEGUS*.

Common. Jerdon gives the bill as 4 inches long! A specimen in my collection has it 3 inches—considerably longer and thinner than European examples.

863. *GRUS ANTIGONE*.

Common.

865. *GRUS CINEREA*.

Common in the cold weather.

866. *ANTHROPOIDES VIRGO*.

Very abundant in the cold season.

871. *GALLINAGO SCOLAPACINA*.

Abundant in the season.

873. *RHYNCHÆA BENGALENSIS*.

Not common. I believe it to be a permanent resident, as I have shot it during the early part of the rains in some of the rushy tanks of the Than district.

875. *LIMOSA ÆGOCEPHALA*.

Common. A winter visitant.

877. *NUMENIUS LINEATUS*, Cuv.

Common.

878. *NUMENIUS PHÆOPUS*.

Common.

882. *TRINGA SUBARQUATA*.

883. *TRINGA CINCLUS*.

I found these two species associating in large flocks on the shores of the Gulf of Kuchh during the cold season.

888. *CALIDRIS ARENARIA*.

I found this species not uncommon along the Gulf of Kuchh in the cold season.

892. *ACTITIS OCHROPUS*.

Common.

893. *ACTITIS HYPOLEUCOS*.

Very common.

897. *TOTANUS CALIDRIS*.

Very common.

898. *HIMANTOPUS CANDIDUS*.

Common.

899. *RECURVIROSTRA AVOCETTA*.

The Avocet is very abundant on the Null and other sheets of water. I have frequently observed them swimming.

901. *HYDROPHASIANUS CHIRURGUS*.

Not uncommon in weedy tanks. Near Baolce, on the Null, several could always be shot on a small sheet of water a little to the west of the village.

902. *PORPHYRIO POLIOCEPHALUS*.

Common. Great numbers of this species are to be found in the acres of sedge and rush round the Null, also at the Lake of Sacla, and in some of the rushy streams on the west coast.

903. *FULICA ATRA*.

Very common.

907. *GALLINULA PHÆNICURA*.

I have seen this species on several occasions, and once watched a pair feeding a few yards off on the bank of a little stream that ran past my tent-door; but I never shot an example.

915. *LEPTOPTILOS ARGALA*.

I have never shot one of these birds, though I have seen them frequently.

917. *MYCTERIA AUSTRALIS*.

Common.

923. *ARDEA CINEREA*.

Common.

924. *ARDEA PURPUREA*.

I have met with this Heron frequently in marshes and rushy streams on the west coast.

926. *HERODIAS EGRETTOIDES*.

Common.

927. *HERODIAS GARZETTA*.

Common.

928. *DEMIEGRETTA ASHA*.

Common by the sea-side. At Balacherry, on the Gulf of Kuchh, *H. egrettoides*, *H. garzetta*, and *Demiegredda asha* were equally abundant.

929. *BUPHUS COROMANDUS.*

Very common.

930. *ARDEOLA LEUCOPTERA.*

Common.

937. *NYCTICORAX GRISEUS.*

Common.

938. *TANTALUS LEUCOCEPHALUS.*

Very common.

939. *PLATALEA LEUCORODIA.*

Not uncommon. At the village of Warodea, a few miles west of Limree, is a small tank much frequented by Spoon-bills; and I have often watched them sitting on a particular tree, balancing themselves awkwardly on the branches and keeping up a curious creaking noise, quite unlike the note of a bird.

941. *THRESKIORNIS MELANOCEPHALUS.*

Not uncommon.

942. *GERONTICUS PAPILLOSUS.*

Common.

943. *FALCINELLUS IGNEUS.*

Common on all the large lakes, and met with at such of the small tanks as were overgrown with rushes or weeds.

944. *PHŒNICOPTERUS ANTIQUORUM.*

Immense flocks are to be seen on all the large lakes and also on the coast.

950. *SARKIDIORNIS MELANONOTUS.*

Common.

951. *NETTAPUS COROMANDELIANUS.*

I obtained this species on the lake at Bullol, east of Limree.

952. *DENDROCYGNA AUSUREE.*

Not common.

954. *CASARCA RUTILA.*

Not common.

957. *SPATULA CLYPEATA.*

959. *ANAS PÆCILORHYNCHA.*

961. *CHAULELASMUS STREPERUS.*

962. *DAFILA ACUTA.*

963. *MARECA PENELOPE.*

964. *QUERQUEDULA CRECCA.*

All very common.

965. *QUERQUEDULA CIRCIA.*

I have shot this species only on the Null.

968. *AYTHYA FERINA.*

Once obtained on the Null.

969. *AYTHYA NYROCA.*

Common.

971. *FULIGULA CRISTATA.*

Not uncommon. I have shot many in the neighbourhood of Baolce.

978. *LARUS FUSCESCENS*, Licht.

(See Blyth, *Ibis*, 1867, pp. 176, 314.)

Common on the shores of the Gulf of Kuchh. Back and wings pale brownish grey; primaries grey, with a blackish band confined to the tip of the innermost primary, but increasing in width to the outermost, which is almost entirely blackish brown, with a white spot near the tip. Bill yellow, red at the lower angle; legs and feet yellow. Wing 18·5 inches, bill at front 2·2.

980. *XEMA BRUNNEICEPHALA.*

(See Stoliczka, *J. A. S. B.* xli. p. 256).

Quills in the adult white, with a black band, narrower on the inner primaries, increasing in width to the outer; the 4th, 5th, 6th, and 7th primaries are white-tipped, the 3rd has no white tip; the 1st and 2nd have a large subterminal white spot. Wing 13·5 inches. A young bird shot in October has the wing-coverts mottled with brown; the quills brown, without the white subterminal spot, and the tail with a dark brown terminal band. The white of the head and neck is

mottled with dusky, and the brown spot behind the ear-coverts is very distinct. Wing 13.

983. *GELOCHELIDON ANGLICUS*.

Very common.

985. *SEENA AURANTIA*.

Very common.

989. *THALASSEUS* ———.

At Balacherry, on the Gulf of Kuchli, I frequently noticed a sea-Tern, which I believe to have been *Th. bengalensis*, but which may have been the larger species. I never obtained a specimen.

1004. *PELECANUS* ———.

Pelicans, both grey and white, are not uncommon both on the coast and on the large inland lakes, but they take good care to keep out of shot.

1005. *GRACULUS CARBO*.

Common on the Null.

1008. *PLOTUS MELANOGASTER*.

Common.

XLVI.—*Letters, Announcements, &c.*

The following letters, addressed “To the Editor of ‘The Ibis,’” have been received:—

SIR,—In the ‘Proceedings’ of the Zoological Society for 1865, p. 823, I described the Harrier of New Caledonia under the name of “*Circus wolfe*.” Since that time some eminent ornithologists have expressed the opinion that this Harrier is not really distinct from *C. gouldi* of Australia and New Zealand; I am therefore desirous of calling attention to a recent corroboration of my view as to the specific distinctness of these two Harriers, which will be found in page 16 of the introduction to Mr. Buller’s valuable ‘History of the Birds of New Zealand.’